CHAPTER 5

CASUALTY CONTROL AND REPORTING

ELECTRONICS CASUALTY CONTROL ORGANIZATION

As a senior technician, you will assist the electronics material officer (EMO) or the electronics repair officer (ERO) in ensuring that all electronics division personnel are properly trained in electronics casualty control (ECC) procedures. These procedures must be outlined in the electronics doctrine and exercised frequently. A properly organized and trained electronics division will enable your ECC organization to successfully perform electronics casualty control and, more importantly, be ready to sustain all electronic battle damage.

ELECTRONICS CASUALTY CONTROL CENTER

A center, or point of control, is needed for efficient management of any organization. For electronics casualties, the Electronics Casualty Control Center (ECC), or Repair 8, is the primary casualty control point. (ECC may mean either *electronics casualty control or electronics casualty control center*, depending on how it is used in the sentence.)

The ECC organization will consist of an ECC, a secondary ECC, casualty investigation teams, and electronic equipment space assignments. The Navy Manpower Engineering Center (NAVMEC) requires that all combatant and CV ship manpower documents list Repair 8 as the central focal point for ECC, with the same functions as the ECC. The following ECC structure and basic responsibilities are typical of those found aboard larger ships.

Primary ECC or Repair 8

Personnel assigned to the ECC center consist of the EMO, at least one senior CPO or petty officer, a status board plotter and phone talker, and, preferably, at least one investigation team. The investigation team consists of at least two experienced personnel. The EMO and the senior CPO or petty officer must be able to hear all incoming messages on the ECC circuit, usually the X6J-either by use of a sound-powered phone amplifier or by use of sound-powered phones.

Electronics casualty control responsibilities start before the ship goes to sea and continue through and after battle readiness. These responsibilities include ensuring that the following things are accomplished:

1. The electronics organization is prepared. The following is a list of the major readiness factors that indicate a well prepared organization:

- All personnel have been properly assigned to their battle stations and properly trained (or are in the process of being trained).
- All electronic equipment and systems are operating at peaked, maximum performance.
- All spaces have been cleared of missile and fire hazards.
- Tools and test equipment are distributed throughout prime spaces.
- Technical manuals are on station and are readily available.
- All voice communications circuits associated with ECC have been checked out and are usable.
- All casualty control kits are complete and have been stowed correctly.
- All spaces are completely damage-control ready; for example, fire bottles, compartment lists, and battle lanterns are properly stowed and ready for use.
- All spaces have an ECC manual or folder tailored for their particular requirements.
- Actual drills instead of simulations are conducted as frequently as is practical, with the commanding officer's permission.

2. Direct and positive control is established at the beginning of every electronics casualty control situation. When general quarters is sounded, the ECC and all stations must be promptly reamed and personnel must don proper battle dress. The primary ECC should

take control immediately. The following basic actions are normally part of the ECC center's responsibilities:

- Establishing immediate communications with all assigned stations.

- Ensuring that all personnel are accounted for and ready for battle.

- Maintaining positive communication with applicable electronics spaces. This requires making a communication check (phone check) every 3 minutes if no other traffic exists. Using a predetermined sequence of answering, the phone talker calls and records (checks off) results. The ECC supervisor should track this procedure closely to be sure communication is maintained.

- After a hit (simulated or actual), running an immediate phone check. After the phone check, all electronic spaces (manned and unmanned) must be checked thoroughly for damage. ECC will dispatch a minimum of two investigators to check known damaged spaces (including manned spaces that fail to respond to phone check). Unmanned spaces are checked by personnel in manned spaces, usually by a prearranged assignment. Checks of unmanned spaces will be made only by, or as directed by, ECC.

- Maintaining precise monitoring of equipment, personnel, and casualties on a status board using standard damage-control symbols.

- Dispatching investigative teams, technical assistance, and parts assistance as applicable. All teams must use preestablished routes. This requires coordinating with damage control central (DCC) when the opening or closing of damage-control fittings is involved. DCC should provide permission for ECC to investigate the main deck and above.

- Providing backup assistance as necessary by assigning personnel within the ECC organization or by coordinating other assistance, such as medical, damage control, and repair teams, through damage control central.

Secondary ECC

The secondary ECC is the first backup to the primary ECC. This alternate is necessary to maintain casualty control if the primary ECC becomes ineffective because of personnel casualties, communication problems, flooding, tire, and such, that result from some type of battle damage.

Personnel assigned to the secondary ECC are usually the assistant EMO or a senior CPO or petty officer, a status board plotter and phone talker, and a casualty investigation team. (If manning does not provide sufficient personnel to have teams in the secondary ECC, casualty investigation teams will be pulled from undamaged spaces.)

When the secondary ECC takes control, its responsibilities are the same as those of the primary ECC. The secondary ECC must maintain the precise status of equipment, systems, personnel, and casualties, matching the status indicated by the primary ECC. This means that the secondary ECC must closely monitor and record all status passed over the electronics casualty control communication circuits and the ship's announcing system MCs.

PERSONNEL ASSIGNMENTS

Suppose an extremely bad casualty occurs that "knocks out" the primary ECC and the secondary ECC. What happens in this situation? Your electronics casualty control organization must have a descending order of control that coincides with the order of reporting-in during phone checks or casualty hits. In any situation involving loss of both the primary and secondary ECC centers, casualty control responsibilities pass to the next lower level in the ECC chain of command. The personnel in each manned station of electronics casualty control should monitor and record all status passed over the communications circuit to the best of their ability.

You must carefully consider a variety of factors when you assign personnel to the various reamed battle stations. You must take into account each person's effectiveness, versatility, and other possible assets to have the most suitable and efficient electronics casualty control organization. If you think carefully about these factors and make your assignments accordingly, the watch, quarter and station bills will contain the best combinations of personnel and duties.

INVESTIGATIVE TEAMS AND ASSISTANCE

Casualties happen during both actual battles and simulated casualty control exercises. This means that casualties to electronic equipment or systems, spaces, and personnel must be expected and that some means of backup and casualty investigation must be assigned. For example, a battle hit is taken, and a phone check yields one or more spaces not answering; therefore, a casualty

exists. An investigation team must be dispatched immediately to identify, investigate, and correct (if possible) the casualty. Assigned investigators should be trained to handle all casualties within a space either by repairing the casualty themselves or by requesting whatever assistance they need.

Assistance may be from either within or outside of the ECC organization. Personnel within the ECC organization will be dispatched by ECC as necessary. The ECC will request and coordinate external assistance through damage control central. ECC must ensure that damage control central is kept aware of arrivals and departures, the applicable assistance team requested, and the status of the casualty.

ELECTRONICS CASUALTY CONTROL MANUAL

Effective electronics casualty control depends on the proper preparation and training of the personnel involved in both operating and maintaining the ship's equipment. To establish an effective electronics casualty control program, each ship must have a comprehensive ECC manual. The following paragraphs describe a typical ECC manual and its basic contents.

Purpose of the Manual

The casualty control manual (1) serves as a ready and rapid reference for technical details of the ship's electronics system installation and spaces and (2) provides data on available repair support material. For the manual to serve its purpose properly, you and your fellow senior personnel must ensure that all appropriate information concerning electronic systems, electrical power, spaces, distributions, damage control related items, and such, is documented in a format that will allow rapid retrieval of needed information.

Damage control manuals must also be distributed properly if they are to contribute to effective casualty control. You should give careful thought to where the manuals should be located. They should be quickly accessible to personnel entering any space. The primary ECC, secondary ECC, and each space determined to be an ECC center alternate must have a complete (master) ECC manual that covers all spaces. All other electronics spaces must have an ECC folder containing the pages that pertain to that space and are identical to the master ECC manual.

Content of the Manual

Most information in a casualty control manual is common knowledge to some of the personnel of your division; so collecting this information will not require a great deal of research unless a major overhaul or alteration to equipments, systems, or spaces has occurred. Often when "common knowledge" information is critically required, those who have it are not available. Then someone must spend time locating data when the time should be spent on corrective action. Plan to prepare and update your casualty control manual during slack work periods, or task the duty sections to provide inputs. This will result in an up-to-date, well-organized reference that will be a great asset to your ECC program. Figure 5-1 shows a typical table of contents of an ECC manual.

The ECC folder must contain the following information:

- Fire-fighting equipment location
- First-aid equipment location
- Emergency destruction equipment location
- Ventilation controller location
- Escape routes (on large ships)
- Electronics emergency access routes
- Internal communications
- Technical manual locations and indexes
- Power distribution diagrams
- Signal distribution diagrams
- Gyro signal distribution diagrams
- Equipment air system diagrams
- Equipment coding system diagrams
- Antenna details

Each technician (or operator) must be able to find any item in the folder within a reasonable time (approximately 2 minutes) and must be able to physically locate anything listed in the folder for which he or she is responsible.

TRAINING

Electronics casualty control training is essential in the achievement of battle readiness. This training is usually accomplished through casualty control

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Figure 5-1.–Typical ECC manual table of contents.

exercises (application of casualty control techniques). Most of the training will be done during the ship's regular underway time, underway training, and refresher training. The key to ECC training is frequent drills. This will keep the old-timers refreshed and will train new personnel.

As a senior technician, you must ensure that personnel working for you and within the electronics division receive the proper training, guidance, and support to achieve combat readiness. While such training may appear to be boring to subordinates, you and your seniors can and should make it interesting by using and mastering different simulated situations each time you have electronics casualty control training. Try to get your shipmates involved so they develop a positive attitude and feel that they are a part of an important ship function.

As you prepare ECC training for your personnel, be sure to cover at least the topics in the list below.

1. Preparations for getting underway.–This should include energizing and checking electronic equipment and systems for proper operation (in most situations, you and the operator will complete this together) and checking electronic spaces for missile hazards and fire hazards.

2. Investigation and reporting.–Conducting investigations for possible damage after any incident that may have caused damage to equipment or spaces.

3. Reports of electronic casualties.–Using the proper procedures for reporting equipment and personnel casualties.

4. Assistance to remote spaces.–Providing technical assistance to a remote station which has no technician, in which the technician has become a casualty, or in which the assigned technician needs assistance.

5. First aid for electrical shock–Administering first aid for electrical shock under all conditions.

6. Combatting class C fires.–Reporting, controlling, and extinguishing class C fires.

7. Equipment casualty repair.–Handling casualties under battle conditions.

8. Use of electronic test equipment.–Using test equipment safely.

9. Equipment casualty repair during loss of lighting.–Investigating casualties to equipment and making repairs during periods when normal lighting is lost.

10. Use of spare fuses.–Using spare fuses to repair casualties that result from momentary overloads.

11. Use of the casualty control manual and folders.–Using the casualty control folder and checking the completeness of the folder in all spaces.

12. Drawing emergency spare parts.–Using the proper procedure for drawing emergency repair parts under the coordination of damage control central and the supply department.

13. Use of alternate or emergency power.–Using alternate or emergency power properly.

14. Sound-powered phone casualty.–Reacting and using message slips if the phone system is knocked out.

15. Secondary and alternate ECC.–Transferring responsibility for electronics casualty control during general quarters.

16. Performance of primary and secondary ECCs.–Maintaining an efficient casualty control system in the primary and secondary ECCs.

17. Cleaning procedures for broken radioactive tubes.–correctly cleaning up broken radioactive tubes.

Type commanders and fleet training groups have refresher training exercise information. Get this information and read it so that you understand the simulated situations, procedures, and exercise grading for each of the areas listed.

Casualty control is the active onboard management of all the elements (such as personnel, parts, manuals, and equipment) to keep your electronics division functioning as it should under battle conditions. This is your responsibility aboard your ship; and while practice and planning are a constant concern, it is combat that makes casualty control a reality.

We will now discuss a different aspect of electronics casualties–casualty reporting. Formal casualty reports must be made on a continuing basis, and only your conscientious attention will allow fleet management to provide proper support.

CASUALTY REPORTING

The preceding section covered electronics casualty control from the preparation standpoint. This section discusses casualty reporting, an important and continuing part of the casualty report (CASREP) system.

The Navy is a large part of our nation's defense, so we must be ready to serve it well during peacetime or

wartime. Our electronic equipment and systems sometimes do not "cooperate" with us, resulting in a down or reduced status that decreases our ability to complete our mission. Electronic equipment and systems are vast, with different types, configurations, and quantities of equipment, using a tremendous number of different components, modules, and other items. Because the equipment and systems are so numerous and complex, you sometimes will not have enough present or properly trained personnel or the required parts on board to repair a casualty; or you may need technical assistance to correct the casualty. These situations are some of the many reasons the Navy has developed a system of casualty reporting (CASREP) and monitoring. With this system, you as a supervisor and technician, can let the Navy managers know where you need help (such as parts or assistance) so you can have your equipment or system on line and combat ready.

THE CASREP SYSTEM

The casualty report (CASREP) has been designed to support the Chief of Naval Operations (CNO) and fleet commanders in the management of assigned forces. The effective use and support of U.S. Navy units and organizations require an up-to-date, accurate operational status for each unit. An important part of operational status is equipment casualty information. When casualties are reported, operational commanders and support personnel are made aware of significant equipment malfunctions that may degrade a unit's readiness. The CASREP also identifies the unit's need for technical assistance or replacement parts to correct the casualty. Once a CASREPis reported, the CNO, fleet commanders in chief (FLTCINCs), and the Ship's Parts Control Center (SPCC) receive a hard copy of the CASREP message. Additionally, the CASREP message is automatically entered into the Navy status of forces database at each FLTCINC site, and corrected messages are forwarded to the CNO's database.

As initial, update, correction, and cancellation CASREPs are submitted, managers are able to monitor the current status of each outstanding casualty. Through the use of high-speed computers, managers are able to collect data concerning the history of malfunctions and effects on readiness. This data is essential to the maintenance and support of units dispersed throughout the world.

Unit commanders must be aware that alerting seniors to their unit's operational limitations, brought about by equipment casualties, is as important as expediting the receipt of replacement parts and obtaining technical assistance. Both of these CASREP functions are needed to provide the information required to command and control U.S. Navy forces and to maintain the units in a truly combat ready status. Support from every level, including intermediate and unit commanders, is essential to maintaining the highest level of combat readiness throughout the Navy.

GENERAL RULES AND PROCEDURES FOR CASREPs

A casualty is defined as an equipment malfunction or deficiency that cannot be corrected within 48 hours and that fits any of the following categories:

- Reduces the unit's ability to perform a primary mission.
- Reduces the unit's ability to perform a secondary mission.
- Reduces a training command's ability to perform its mission, or a significant segment of its mission, and cannot be corrected or adequately accommodated locally by rescheduling or double-shifting lessons or classes.

TYPES OF CASREPS

The CASREP system contains four different types of reports: INITIAL, UPDATE, CORRECT, and CANCEL. These reports are submitted using a combination of two or more messages, depending on the situation and contributing factors. The four types of reports are described as follows:

1. The INITIAL CASREP identifies, to an appropriate level of detail, the status of the casualty and parts or assistance requirements. Operational staff authorities need this information to set proper priorities for the use of resources.

2. The UPDATE CASREP contains information similar to that submitted in the Initial report and is used to submit changes to previously submitted information,

3. The CORRECT CASREP is submitted when equipment that has been the subject of casualty reporting is repaired and back in operational condition.

4. The CANCEL CASREP is submitted at the beginning of an availability period when equipment that has been previously reported is scheduled to be repaired during the availability. Outstanding casualties that will not be repaired during the availability will not be

canceled and will be subject to normal follow-up casualty reporting procedures.

CASUALTY CATEGORIES

A casualty category (2, 3, or 4) is associated with each reported equipment casualty to reflect the urgency or priority of the casualty. The casualty category, although not a readiness rating, is directly related to the unit's Equipment Status Resource-Specific Categories [explained in chapters 5 and 6 of NWP 10-1-11, Status of Resources and Training System (SORTS)] in primary and secondary missions that are affected by the casualty. NAVEDTRACOM activities use four casualty categories (1, 2, 3, or 4). In this chapter we discuss only non-NAVEDTRACOM activities.

The casualty category (2, 3, or 4) is based upon the specific casualty situation being reported and may not necessarily agree with the unit's overall readiness status. The casualty category is reported in the CASUALTY set (section of the CASREP) and is required in all CASREPs.

Figure 5-2 shows a decision logic tree that provides a logical approach in determining the casualty category and whether or not a CASREP is required. Figure 5-3 shows the criteria for determining the casualty category.

MESSAGE FORMAT

A CASREP message consists of one or more sets that contain the information required to report the particular casualty. These data sets are preceded by a standard Navy message header consisting of precedence, addresses, and classification. Specific guidelines for both the message header and data sets to be used are contained in chapter 4 of NWP 10-1-10, Operational Reports. Detailed information for typing each type of casualty report (INITIAL, UPDATE, CORRECT, and CANCEL), with examples of CASREP situations for each type, is also provided.

The CASREP message is always serialized with the MSGID (message identification) set, that appears immediately after the message classification line. The serial numbers are sequential from 1 through 999 for each CASREP originated by a unit. These serial numbers are not repeated until a new sequence of numbers 1 through 999 has begun. A new sequence of numbers starts after the unit has submitted CASREP message number 999.

The date-time group (DTG) of the CASREP message transmission is the effective time ("as of time") of CASREP. Follow-up CASREP messages (UPDATE, CORRECT, or CANCEL) will reference the INITIAL CASREP message DTG.

Because of the importance and priority of CASREP message transmission, your CASREP messages must be transmitted even under MINIMIZE conditions. Use standard naval telecommunications systems (NTS) service procedures in correcting any messages having transmission errors.

CASREP REPORTING CRITERIA

Each type of CASREP has own its reporting criteria, which we have described below.

INITIAL CASREP

Any time you prepare an INITIAL CASREP, remember the following criteria:

1. Submit only one initial casualty in the INITIAL CASREP; if some of the required data is not available at reporting time, use your best estimate in the INITIAL CASREP and correct your estimate as soon as possible in an UPDATE CASREP.

2. In an Initial CASREP, identify, to the appropriate level of detail, the status of the equipment, parts, and assistance requirements. This is essential to allow operational and staff authorities to apply the proper priority to necessary resources.

3. You may also submit an Initial CASREP if you only need outside assistance; i.e., no parts are required to correct the equipment casualty.

4. When a casualty results from inadequate general-purpose electronic test equipment (GPETE) or preventive maintenance (PMS), list the affected system as the subject of the INITIAL CASREP, and report GPETE or PMS as the cause in an AMPN (Amplification) data set.

5. Use an ASSIST data set to report whether or not you need outside assistance to repair an equipment casualty.

6. When you need assistance or parts to repair a casualty, report schedule information in the RMKS set for a full 30-day period, beginning on the earliest date that you can receive the assistance or parts. You may also report any effect the casualty is expected to have on your unit's employment during the 30-day period.

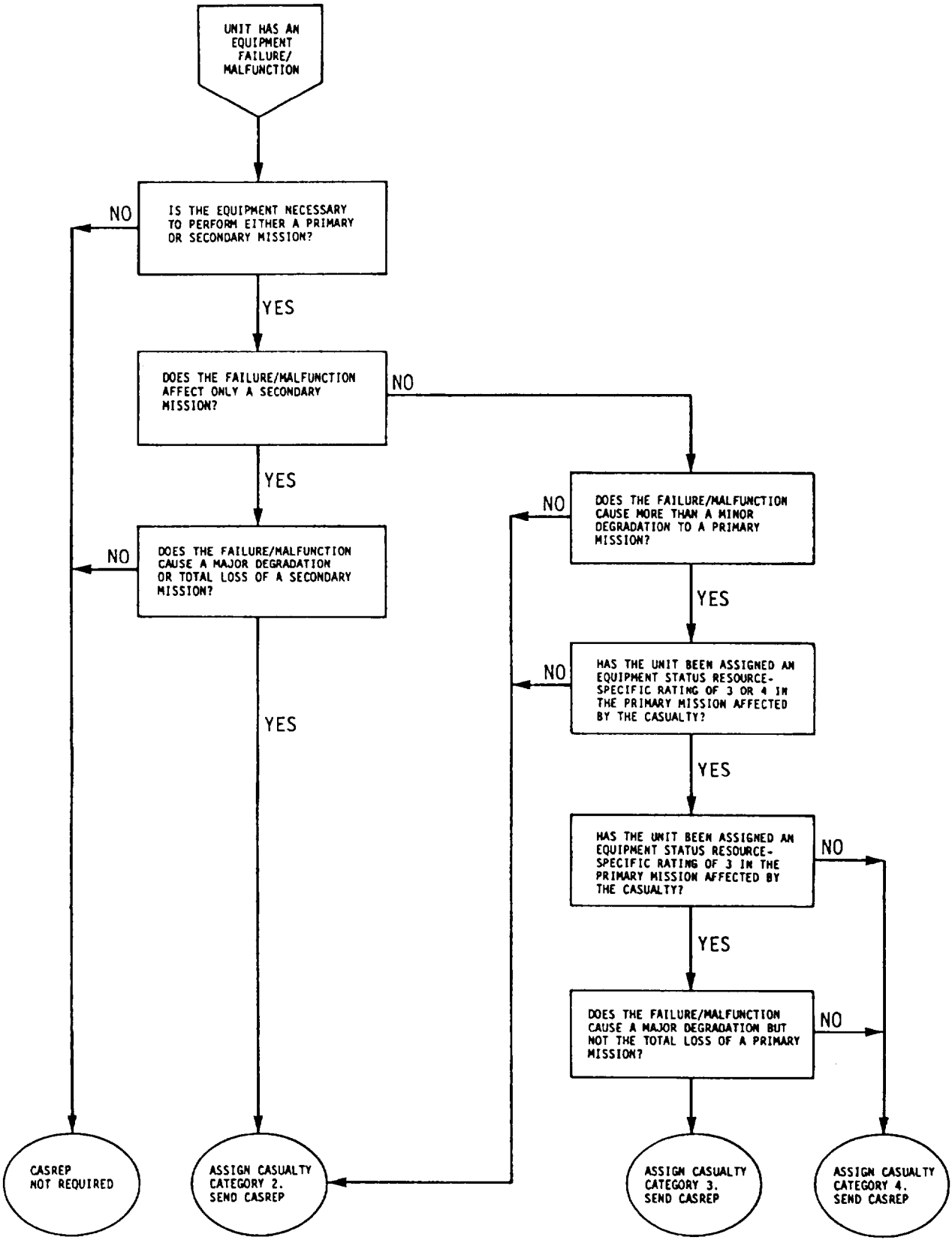

Figure 5-2.–Casualty category decision tree.

UPDATE CASREP

With the exception of the CASUALTY and ESTIMATE sets, you need to report in the UPDATE CASREP only previously unreported casualty information or information that has changed (or was reported in error). In most cases, you may change information in a previously reported data set by merely submitting the same data set again with the corrected information. You must submit an UPDATE CASREP for a casualty when any of the following criteria apply:

1. There is a need to complete information reporting requirements or to revise previously submitted information.

2. The casualty situation changes; for example, the estimated repair date has changed, parts status has changed significantly, additional assistance is needed, and so on.

3. Additional malfunctions are discovered in the same item of equipment.

4. All parts ordered to repair the equipment are received.

5. Upon receipt of any significant part or equipment, inclusion of the date of receipt is required.

There can only be one outstanding CASREP for each item of equipment. Additional problems or malfunctions on the same item must be reported using an UPDATE CASREP and do not require the submission of a new INITIAL CASREP.

Each casualty being updated in an UPDATE CASREP must begin with a CASUALTY set followed by one or more sets that provide information concerning that casualty.

An AMPN set must be used (immediately following the ESTIMATE set) to report the receipt of parts previously reported as being required to repair a casualty.

CORRECT CASREP

You must submit a CORRECT CASREP when equipment that has been the subject of a casualty report is repaired and back in operational condition. When you use a CASREP to report the correction of a casualty situation, include the following information in an AMPN set:

1. The delay, expressed in hours, in correcting the casualty because of pacts unavailability, caused by the supply system.

CASUALTY CATEGORY	EQUIPMENT CRITERIA
2*	a. A deficiency exists in mission essential equipment which causes a minor degradation in any primary mission, or a major degradation or total loss of a secondary mission.* b. The unit must have reported an Equipment Status Resource-Specific Rating of 2, 3, or 4 in primary missions affected by this casualty.
3	a. A deficiency exists in mission essential equipment which causes a major degradation but not the loss of a primary mission. b. The unit must have reported an Equipment Status Resource-Specific Rating of 3 or 4 in primary missions affected by this casualty.
4	a. A deficiency exists in mission essential equipment that is worse than casualty category 3, and causes a loss of at least one primary mission. b. The unit must have reported an Equipment Status Resource-Specific Rating of 4 for a primary mission affected by this casualty.
*Casualties affecting a secondary mission shall always have a casualty category of 2.	

Figure 5-3.–Casualty categories and criteria.

2. A final parts status, including a list of all parts requests and dates received.

3. The number of man-hours expended in correcting the casualty.

CANCEL CASREP

Your CANCEL CASREPs must include the reason for cancellation. For example, if you cancel the CASREP because an equipment will be repaired during an availability, you must identify the scheduled availability (location and date during which a casualty is expected to be repaired) in an AMPN set immediately following the CASUALTY set.

The addresses listed on CASREP messages are those of commands, activities, and the like, that are concerned with your unit's casualty. One or more may be a command or activity that will expedite the assistance you need. These addresses will vary with major geographical locations, such as Pacific, Atlantic, Caribbean, and Mediterranean. The senior operational commander, immediate operational commander, and cognizant type commander, or designated deputy, must be action addressees on all CASREPs. The appropriate aviation type commander must be included as an information addressee on all CASREPs from naval air stations and facilities. Special addresses, associated with selected equipment types, are given in chapter 4 of NWP 10-1-10.

COMMON REPORTING ERRORS

A lot of time and effort goes into writing a CASREP message. Ensure that the effectiveness of your CASREP message is not degraded by some of the common reporting errors. As a CASREP drafter, you should be alert to these common errors:

1. Not listing the work center and job sequence number (JSN).

2. Incorrect determination of the readiness rating categories.

3. Not listing the specific operational capability that has been degraded.

4. Omitting the estimated time to repair (ETR) or reporting it as "unknown."

5. When parts are required but not on board, leaving out the phrase "Parts plus ( ) hours" when entering the ETR.

6. Not identifying the specific loss of capability in the primary mission area; for example, "loss of one-third of liquid nitrogen production capability."

7. Using incomplete or incorrect message addresses.

8. Not providing UPDATE CASREPs every 30 days when the ETR is past (or known to be invalid), when a significant change in CASREP status occurs, or upon receipt of material required to correct the casualty.

9. Listing multiple pieces of equipment (incorrectly) as a single CASREP; for example, "NRS 12, 18, and 23 SRC20 UHF Transceivers."

10. Submitting multiple CASREPs as the same casualty; for example, three separate CASREPs submitted on the same radar power supply: one for a defective transformer, one for a shorted SCR, and one for a current limiting module.

11. Indicating a relationship with PMS that is not correct; for example, the maintenance index page (MIP) referenced is for different equipment; or the problem is noted as having been discovered in the course of PMS, whereas the circumstances and list of parts indicated that a casualty had already occurred.

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